EOS Science Networks
Performance Report

This is a summary of EOS QA SCF performance testing for the 4th quarter of 2005 -- comparing the performance against the requirements from BAH, including Terra, TRMM, and QuikScat, Aqua, Aura, SAGE III, and ICESat requirements

Up to date graphical results can be found on the EOS network performance web site: http://ensight.eos.nasa.gov/active_net_measure.html. Or click on any of the individual site links below.

Highlights:

- Very stable performance.

Notes:

- The SAGE III MOC testing from GSFC-SAFS was moved from this report to the "EOS Production sites" performance report.

- The April '05 requirements are used as the basis for the ratings.

Ratings:

Rating Categories:

Excellent : median of daily worst cases > 3 x requirement
Good : median of daily worst cases > requirement

Adequate : median of daily worst cases < requirement
                    and
          median of daily medians > requirement

Low : median of daily medians < requirement.
Bad : median of daily medians < 1/3 of the requirement.

Ratings Changes:

**Upgrades:** ↑
        LaRC → JRC: Good → **Excellent**

Downgrades: ↓
        LaTIS → NSSTC: Good → **Adequate**
        GSFC-ICESAT → U Washington: Good → **Adequate**

The chart below shows the number of sites in each classification since the testing started in 1998. Note that these ratings do NOT relate to absolute performance -- they are relative to the EOS requirements. The GPA is calculated based on Excellent: 4, Good: 3, Adequate: 2, Low: 1, Bad: 0

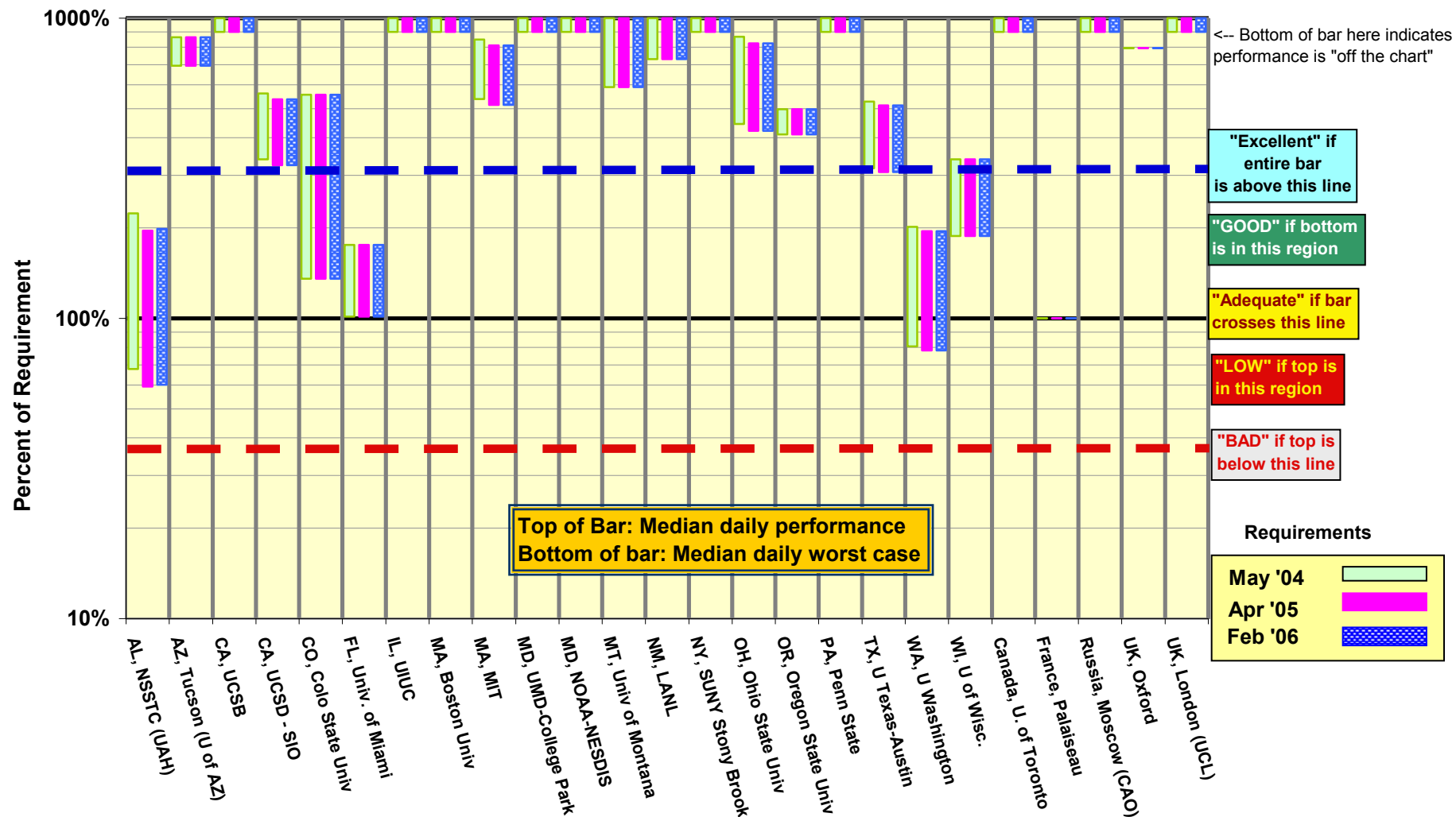## EOS QA SCF Networks - Ratings History
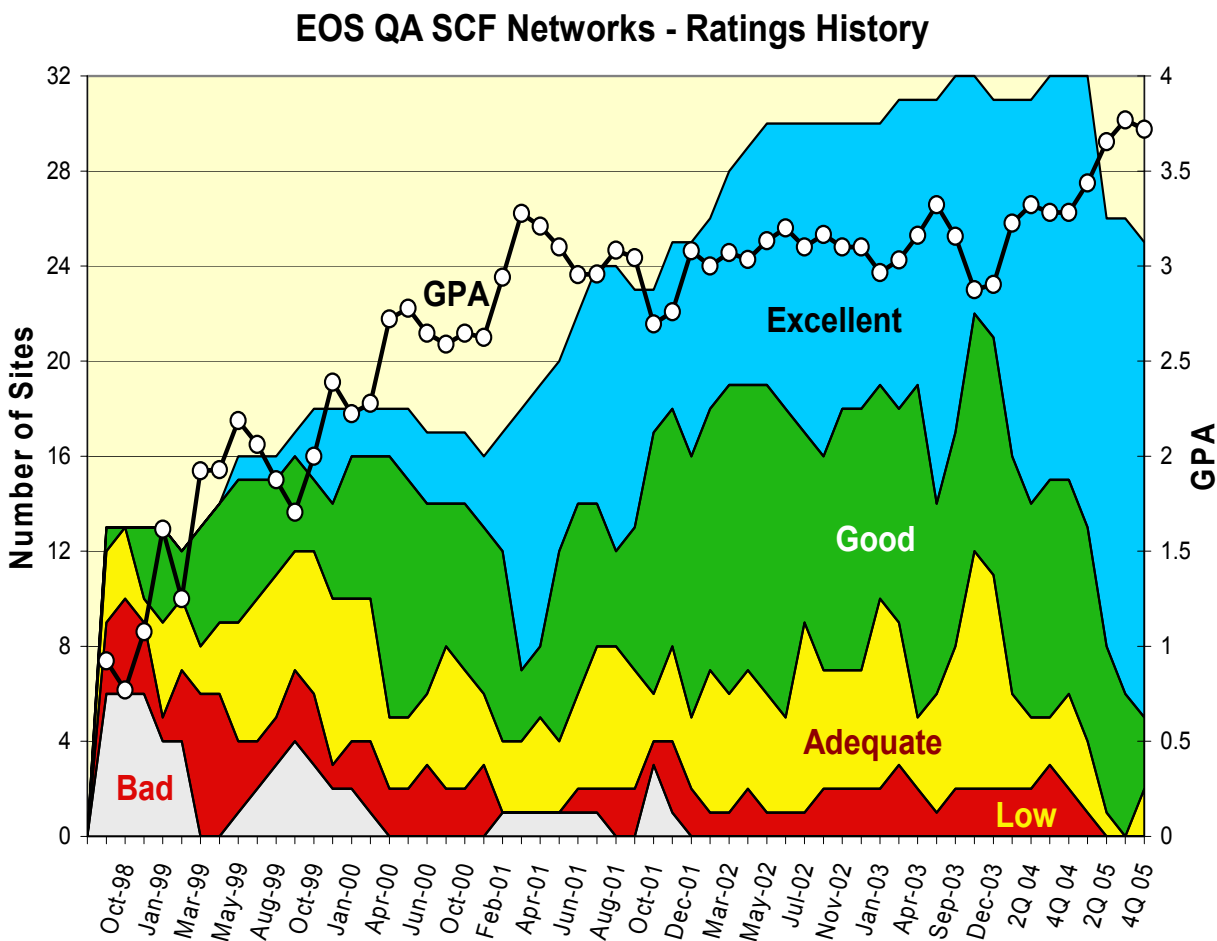
Note that there are fewer sites included in this chart since 1Q'05 due to moving the data for SIPS sites to the "EOS Production sites" performance report (NCAR, KNMI, RSS. GSFC → JPL, NSSTC → NSIDC). This period the data for GSFC-SAFS to the SAGE III MOC (at LaRC) was also moved to the production report.

EOS QA SCF Sites: Network Requirements vs. Measured Performance

4 Q 2005		Requirements (kbps)			Testing							
Destination	Team (s)	Previous:	Current:	Future:	Source Node	Media	Median Daily	Rating re Current Requirements		Rating re		
		May-04	Apr-05	Feb-06		n kbps	Worst	Apr-05	Prev	Feb-06		Route Tested
AL, NSSTC (UAH)	CERES, AMSR-E	6236	7127	7034	LaTIS	13962	4230	Adequate	G	Adequate		NISN + FDDI
AZ, Tucson (U of AZ)	MODIS	2811	2811	2811	EROS LPDAAC	24294	19509	Excellent	E	Excellent		Abilene via vBNS+ / DC
CA, UCSB	MODIS	3126	3126	3126	GDAAC	107328	77196	Excellent	E	Excellent		Abilene via MAX
CA, UCSD - SIO	ICESAT, CERES	6792	7107	7107	GSFC-ICESAT	38160	23020	Excellent	E	Excellent		Abilene via NISN / MAX
CO, Colo State Univ	CERES	2147	2147	2147	LaTIS	11943	2908	GOOD	G	GOOD		NISN -> Abilene via Chicago
FL, Univ. of Miami	MODIS, MISR	18823	18823	18823	GDAAC	33051	19078	GOOD	G	GOOD		Abilene via MAX
IL, UIUC	MISR	1133	1133	1133	LaRC DAAC	36851	22817	Excellent	E	Excellent		Abilene via NISN / MAX
MA, Boston Univ	MODIS, MISR	3035	3035	3035	EROS LPDAAC	67164	44075	Excellent	E	Excellent		Abilene via vBNS+ / DC
MA, MIT	ICESAT	6692	7007	7007	GSFC-ICESAT	56820	36027	Excellent	E	Excellent		Abilene via NISN / MAX
MD, UMD-College Park	MODIS	2039	2039	2039	GSFC-MAX	457974	452153	Excellent	E	Excellent		Direct Fiber
MD, NOAA-NESDIS	CERES, AMSR-E	1517	1517	1517	NSIDC	26197	21358	Excellent	E	Excellent		Abilene via FRGP, MAX
MT, Univ of Montana	MODIS	819	819	819	EROS LPDAAC	12681	4825	Excellent	E	Excellent		Abilene via vBNS+ / DC
NM, LANL	MISR	1033	1033	1033	LaRC DAAC	13668	7549	Excellent	E	Excellent		NISN -> ESNet via CA
NY, SUNY Stony Brook	CERES	573	573	573	LaTIS	40030	30598	Excellent	E	Excellent		Abilene via NISN / MAX
OH, Ohio State Univ	ICESAT	5992	6307	6307	GSFC-ICESAT	52000	26608	Excellent	E	Excellent		Abilene via NISN / MAX
OR, Oregon State Univ	CERES, MODIS	7570	7570	7570	LaTIS	37634	31071	Excellent	E	Excellent		Abilene via NISN / MAX
PA, Penn State	MISR	2642	2642	2642	LaRC DAAC	39104	30627	Excellent	E	Excellent		Abilene via NISN / MAX
TX, U Texas-Austin	ICESAT	10745	11060	11060	GSFC-ICESAT	56671	34010	Excellent	E	Excellent		Abilene via NISN / MAX
WA, U Washington	ICESAT	11374	11746	11746	GSFC-ICESAT	22932	9179	Adequate	G	Adequate		Abilene via NISN / MAX
WI, U of Wisc.	MODIS, CERES, AIRS	16461	16461	16461	GDAAC	55809	30951	GOOD	G	GOOD		Abilene via MAX
Canada, U. of Toronto	MOPITT	612	612	612	LaRC DAAC	23274	13608	Excellent	E	Excellent		NISN-CA*net4
Italy, Ispra (JRC)	MISR	517	517	517	LaRC DAAC	7711	2262	Excellent	G	Excellent		NISN-UUNET-Milan
Russia, Moscow (CAO)	SAGE III	26	26	26	CAO-->LaRC-N	421	255	Excellent	E	Excellent		NISN -> Moscow
UK, Oxford	HIRDLS	512	512	512	GSFC-MAX	4076	4068	Excellent	E	Excellent		Abilene->Geant (NY) -> JAnet
UK, London (UCL)	MISR, MODIS	1033	1033	1033	LaRC DAAC	21977	17252	Excellent	E	Excellent		NISN - MAX - Abilene->Geant (NY) -> JAnet

	*Rating Criteria:				Rating	Current Apr-05	Last Report	Future: Feb-06	
Excellent	Median of Daily worst hours >= 3 *Requirement				Excellent	20	20	20	
GOOD	Median of Daily worst hours >= Requirement				GOOD	3	6	3	
Adequate	Median of Daily worst hours < Requirement <= Median of Daily Medians				Adequate	2	0	2	
LOW	Requirement > Median of Daily Medians				LOW	0	0	0	
BAD	Requirement > 3 * Median of Daily Medians				BAD	0	0	0	
					Total	25	26	25	
					GPA	3.72	3.77	3.72	

EOS QA SCF Sites
Daily Median and Worst Performance as a percent of Requirements

Percent of Requirement

<-- Bottom of bar here indicates performance is "off the chart"

"Excellent" if entire bar is above this line

"GOOD" if bottom is in this region

"Adequate" if bar crosses this line

"LOW" if top is in this region

"BAD" if top is below this line

Top of Bar: Median daily performance
Bottom of bar: Median daily worst case

Requirements

May '04
Apr '05
Feb '06

1000%
100%
10%

AL, NSSTC (UAH)
AZ, Tucson (U of AZ)
CA, UCSB
CA, UCSD - SIO
CO, Colo State Univ
FL, Univ. of Miami
IL, UIUC
MA, Boston Univ
MA, MIT
MD, UMD-College Park
MD, NOAA-NESDIS
MT, Univ of Montana
NM, LANL
NY, SUNY Stony Brook
OH, Ohio State Univ
OR, Oregon State Univ
PA, Penn State
TX, U Texas-Austin
WA, U Washington
WI, U of Wisc.
Canada, U. of Toronto
France, Palaiseau
Russia, Moscow (CAO)
UK, Oxford
UK, London (UCL)

Details on individual sites:

Each site listed below is the DESTINATION for all the results reported in that section. The first test listed is the one on which the rating is based -- it is from the source most relevant to the driving requirement. Other tests are also listed. The three values listed are derived from [nominally] 24 tests per day. For each day, a daily best, worst, and median is obtained. The values shown below are the medians of those values over the test period.

1) AL, NSSTC (UAH) (aka GHCC)   Rating: ↓ Good → Adequate

Teams: CERES, [AMSR]   Domain: nsstc.uah.edu
Web Page:http://ensight.eos.nasa.gov/Missions/terra/NSSTC.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC LaTIS	16.6	14.0	4.2	NISN SIP
GSFC	22.0	21.3	18.6	NISN SIP

Requirements:

Source Node	Date	Mbps	Rating
LaRC LaTIS	May '04	6.2	Adequate
LaRC LaTIS	Apr '05	7.1	Adequate

Comments: Peak thruput from both sites dropped slightly in early October with an apparent NISN PVC change (peaks were 18 mbps from LaTIS and 25 from GSFC last quarter). But noisiness also increased from LaTIS – median daily worst had been 13 mbps. The median daily worst is now below the requirement, so the rating drops to "Adequate".

2) AZ, Tucson (U of AZ):   Rating: Continued Excellent

Teams: MODIS   Domain: arizona.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/ARIZONA.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS LPDAAC	34.9	24.3	19.5	Abilene via vBNS+ / DC
GSFC	69.4	62.7	54.4	Abilene via MAX

Requirements:

Source Node	FY	Mbps	Rating
EROS LPDAAC	'03 - '06	2.8	Excellent

Comments: The ratings are based on the MODIS flow from EROS -- performance was stable, keeping the rating "Excellent. GSFC source was switched and retuned in October , improving thruput from a median of 28 mbps last month.

3) CA, UCSB :

Ratings: GSFC: Continued **Excellent**

EROS: Continued **Excellent**

Teams: MODIS
Domain: ucsb.edu
Web page: http://ensight.eos.nasa.gov/Missions/terra/UCSB.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	114.5	107.3	77.2	Abilene via NISN / MAX
EROS-LPDAAC	93.7	89.0	41.7	Abilene via vBNS+ / DC

Requirements:

Source Node	FY	mbps	Rating
GSFC-DAAC	'04 - '06	3.1	**Excellent**
EROS-LPDAAC	'04 - '06	2.2	**Excellent**

Comments: The requirements are split between EROS and GSFC. Performance from both GSFC and EROS improved substantially in late April '05 due to host upgrade at UCSB (Median performance was 19 mbps from GSFC and 18 mbps from EROS before that). The rating remains "Excellent" from both sites.

4) CA, UCSD (SIO) :

Ratings: ICESAT: Continued **Excellent**

LaTIS: Continued **Excellent**

Teams: CERES, ICESAT
Domain: ucsd.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/UCSD.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	48.9	38.2	23.0	Abilene via NISN / MAX
LaTIS	40.9	38.0	32.0	Abilene via NISN / MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'05 – '06	7.0	**Excellent**
LaTIS	'02 - '06	0.26	**Excellent**

Comments: The rating is based on testing from the ICESAT SCF at GSFC. The daily worst from ICESAT improved from 20 mbps in Q2, and remains slightly above 3 x the requirement, so the rating remains "Excellent".

Performance from LaTIS improved in April '05 (from 25 mbps) due to NISN routing to Abilene via MAX (previously via Chicago). Prior to that thruput was stable since April '03. The CERES requirements are much lower than ICESAT, so the LaTIS rating continues as "Excellent".

5) CO, Colo State Univ.:

Rating: Continued **Good**

Teams: CERES

Domain: colostate.edu

Web page: http://ensight.eos.nasa.gov/Missions/terra/COLO_ST.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaTIS	17.0	11.9	2.9	Abilene via NISN / Chicago
GSFC	28.8	21.6	8.4	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '06	2.15	**Good**

Comments: The Colo State test host was replaced in mid August '05 – performance improved from both LaTIS and GSFC at that time. Performance from LaTIS got a noisier – the daily best got a bit better, and the daily worst got a bit lower. But the daily worst remained above the '05 requirement, so the rating stayed "Good". Performance from GSFC is noisy, but less so, and would rate as "Excellent".

6) FL, Univ. of Miami:

Rating: GSFC: Continued **Good**

LaRC: Continued **Excellent**

Teams: MODIS, MISR

Domain: rsmas.miami.edu

Web page: http://ensight.eos.nasa.gov/Missions/terra/MIAMI.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC-DAAC	39.6	33.1	19.1	Abilene via MAX
GSFC-MAX	41.0	34.6	20.9	Abilene via MAX
LaRC DAAC	25.2	20.6	12.7	Abilene via NISN / MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '06	18.8	**Good**
LaRC DAAC	'04 - '06	1.1	**Excellent**

Comments: Thruput from all sites dropped dramatically in Aug '05 – Medians from GSFC were 133 mbps from GSFC and 38 mbps from LaRC. But the daily worst values remain above the requirement, so the rating remains "Good" from GSFC, and "Excellent" from LaRC.

7) IL, UIUC: Rating: Continued **Excellent**

Teams: MISR   Domain: uiuc.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/UIUC.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	41.1	36.9	22.8	Abilene via NISN / Chicago
GSFC	236.0	218.4	16.5	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'04 - '06	1.13	**Excellent**

Comments: Performance was stable this period, well above the modest requirement, rating "Excellent".

8) MA, Boston Univ: Ratings: EROS: Continued **Excellent**
                                                          LaRC: Continued **Excellent**

Domain: bu.edu
Teams: MODIS, MISR
Web Page: http://ensight.eos.nasa.gov/Missions/terra/BU.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS DAAC	82.7	67.2	44.1	Abilene via vBNS+ / DC
GSFC	93.8	93.6	92.4	Abilene via MAX
LaRC DAAC	41.9	39.3	31.3	Abilene via NISN / MAX

Requirements:

Source Node	FY	mbps	Rating
EROS DAAC	'04 - '06	3.0	**Excellent**
LaRC DAAC	'04 - '06	1.2	**Excellent**

Comments: Performance from all sites was very stable this period. The rating from both sites remains Excellent".

9) MA, MIT: Rating: Continued **Excellent**

Teams: ICESAT   Domain: mit.edu
Web Page: http://ensight.eos.nasa.gov/Missions/icesat/MIT.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	70.6	56.8	36.0	Abilene via NISN / MAX
GSFC-MAX	91.0	86.4	68.5	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04, '05 – '06	6.7, 7.0	**Excellent**

Comments: Performance from GSFC ICESAT to MIT is still subject to congestion inside GSFC, about as much as previously. The daily worst remains above 3 x the requirement, the rating remains "Excellent". From GSFC-MAX there is less congestion apparent.

10) MD, NOAA-NESDIS (Camp Springs)   Rating: Continued Excellent

Teams: CERES, AMSR-E   Domain: nesdis.noaa.gov
Web Pages: http://ensight.eos.nasa.gov/Missions/terra/NOAA_Camp_Springs.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
NSIDC	26.3	26.2	21.4	FRGP / Abilene / MAX
LaTIS	31.9	30.9	10.9	NISN / MAX
GSFC-MODIS	32.9	32.7	30.9	Peering at MAX

Requirements (QA only):

Source Node	FY	mbps	Rating
NSIDC	'02 – '06	1.52	Excellent
LaTIS	'02 – '06	0.21	Excellent

Comments: Performance from LaTIS improved in April '05 with the NISN – Abilene routing via MAX. The performance from other sources has been stable since it improved around mid August '04, due to upgrades at NOAA. The rating remains "Excellent" from both NSIDC and LaTIS.

11) MD, Univ. of Maryland: Rating: Continued Excellent

Teams: MODIS   Domain: umd.edu
Web Pages: http://ensight.eos.nasa.gov/Missions/terra/UMD_SCF.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-MAX	460.4	458.0	452.2	Direct Fiber OC-12 / MAX / SCF
EROS LPDAAC	88.6	81.5	60.6	VBNS+ / Abilene / MAX / SCF
NSIDC	45.5	45.3	39.7	Abilene / MAX / SCF

Requirements (QA only):

Source Node	FY	mbps	Rating
GSFC DAAC	'02 – '06	2.0	Excellent

Comments: The UMD test node was replaced in mid May '05 – performance improved to the above levels at that time, and has been very stable. Due to the modest requirement, these performance levels rate as "Excellent"

12) MT, Univ of Montana: Rating: Continued **Excellent**
Teams: MODIS   Domain: ntsg.umt.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/MONT.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
EROS LPDAAC	18.1	12.7	4.8	VBNS+ / DC / Abilene
GSFC	36.5	22.3	10.1	MAX / Abilene
NSIDC	39.1	27.1	12.5	CU / FRG / Abilene

Requirements:

Source Node	FY	mbps	Rating
EROS LPDAAC	'04 - '06	0.82	**Excellent**

Comments:. Stable performance, with a strong diurnal cycle from all sources – the daily best and median values didn't change much, but daily worst values dropped about in half this period. With the low requirements, however, the rating continues as "Excellent".

13) NM, LANL: Rating: Continued **Excellent**
Teams: MISR   Domain: lanl.gov
Web Page: http://ensight.eos.nasa.gov/Missions/terra/LANL.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaRC DAAC	16.5	13.7	7.5	NISN SIP / MAE-W (Ames) / ESnet
GSFC	51.9	46.9	25.2	MAX / ESnet

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'06	1.03	**Excellent**

Comments: Performance from LDAAC was stable; performance from GDAAC improved with retuning (median was previously 17 mbps) after the ESnet upgrade in early July '04. The rating remains "Excellent"

14) NY, SUNY-SB: Rating: Continued **Excellent**
Teams: CERES, MODIS   Domain: sunysb.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/SUNYSB.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaTIS	42.6	40.0	30.6	NISN / MAX / Abilene / NYSERnet
GSFC	75.8	62.5	30.0	MAX / Abilene / NYSERnet

Requirements:

Source Node	FY	mbps	Rating
LaTIS	'02-'06	0.57	**Excellent**

Comments: Performance from both sites increased to the above values in April '05 after the routing from LaRC was via MAX, the SUNY test host was replaced, and test parameters adjusted. With the low requirement, the rating remains "Excellent".

15) OH, Ohio State Univ: Rating: Continued **Excellent**

Teams: ICESAT   Domain: ohio-state.edu
Web Page: http://ensight.eos.nasa.gov/Missions/icesat/OHIO_STATE.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC-ICESAT	69.9	52.0	26.6	Abilene via NISN / MAX
GSFC-MAX	60.5	53.9	42.9	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04, '05-'06	6.0, 6.3	**Excellent**

Comments: The congestion at ICESAT is still somewhat apparent. The daily worst from ICESAT remains more than 3 x the requirement, so the rating remains "Excellent". Without this congestion, the daily worst from GSFC-MAX is higher – although the daily median and maximum are similar..

16) OR, Oregon State Univ: Ratings: LaTIS: Continued **Excellent**
                                                        GSFC: Continued **Excellent**

Domain: oce.orst.edu
Teams: CERES, MODIS
Web Page:http://ensight.eos.nasa.gov/Missions/terra/ORST.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaTIS	40.3	37.6	31.1	Abilene via NISN / Chicago
JPL	77.3	72.0	24.8	Abilene via CalRen
GSFC	54.2	44.4	19.8	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '06	7.5	**Excellent**
GDAAC	'02 - '06	0.25	**Excellent**

Comments: Performance from all sources experienced continued noisiness and was similar to the previous period; the rating remains "Excellent".

17) PA: Penn State Univ: Rating: Continued **Excellent**

Teams:MISR   Domain: psu.edu
Web Page: http://ensight.eos.nasa.gov/Missions/terra/PENN_STATE.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaRC DAAC	41.8	39.1	30.6	Abilene via NISN / MAX
GSFC	181.4	171.9	157.2	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'06	2.6	**Excellent**

Comments: Performance from LDAAC has been stable since it improved in April '05 with the NISN – Abilene routing via MAX; the rating remains "Excellent". Performance from GSFC improved to the above levels in September '04.

18) TX: Univ. of Texas - Austin: Rating: Continued **Excellent**

Teams: ICESAT   Domain: utexas.edu
Web Page: http://ensight.eos.nasa.gov/Missions/icesat/TEXAS.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC-ICESAT	71.7	56.7	34.0	Abilene via NISN / MAX
GSFC-MAX	91.9	87.4	78.7	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'03, 05-'06	10.7, 11.1	**Excellent**

Comments: Performance from GSFC-MAX and ICESAT-SCF at GSFC via Abilene improved in August with retuning of the test parameters; prior to that thruput had been very stable since July '03 at a median of about 40 mbps. Congestion is still observed from ICESAT; the daily worst remains slightly above 3 x the requirement, so the rating continues "Excellent".

Note: Results from testing from GSFC-SAFS to the SAGE III MOC at LaRC have been moved to the "Production Sites" report.

19) WA, Univ Washington:

Rating: ↓ Good → **Adequate**

Teams: ICESAT

Domain: washington.edu

Web Page: http://ensight.eos.nasa.gov/Missions/icesat/UW.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC-ICESAT	37.3	22.9	9.2	Abilene via NISN/MAX
GSFC-MAX	60.9	55.9	19.1	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04, '05-'06	11.3, 11.7	**Adequate**

Comments: Like other ICESAT sites, congestion from the ICESAT test node was still present. The daily worst from GSFC-MAX dropped from 40 mbps last period, indicating increased noisiness enroute or close to Washington. The median daily worst from ICESAT is now below the requirement; dropping the rating to "Adequate" – but would be "Good" from GSFC-MAX.

20) WI, Univ. of Wisconsin:

Ratings: GSFC: Continued **Good**
                LARC**:** Continued **Good**

Teams: MODIS, CERES, AIRS

Domain: ssec.wisc.edu

Web Page: http://ensight.eos.nasa.gov/Missions/terra/WISC.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
G-DAAC	71.7	55.8	31.0	MAX / Abilene / Chi / MREN
LaTIS	27.5	26.1	21.1	NISN / Chicago / MREN
GSFC-MAX	74.5	56.4	29.2	MAX / Abilene / Chi / MREN

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '06	16.5	**Good**
LaRC Combined	'04, '05-'06	7.5, 7.9	**Good**

Comments: Performance from LaTIS was a bit less noisy but long term stable; the rating from LaRC remains "Good".   Performance from GDAAC was stable; the rating remains "Good".

21) Canada, Univ of Toronto: Rating: Continued **Excellent**

Team: MOPITT   Domain: physics.utoronto.ca
Web Page: http://ensight.eos.nasa.gov/Missions/terra/TORONTO.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaRC DAAC → Test Node	26.2	23.3	13.6	NISN / Chicago / CA*net4
GSFC→ Test Node	50.5	38.2	28.8	MAX / Abilene / Chicago / CA*net4

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02 - '06	100	**Excellent**
GSFC EOC	'02 - '06	512	**Excellent**

Comments: Flows to the Toronto IST node were switched from the dedicated NISN T1 to CA*net4 in late October '04. Performance from both LDAAC (source of QA data) was stable, and from GSFC (source for IST) to the IST at Toronto dropped from a median of 62 mbps last period. Testing to the actual IST was previously discontinued based on request from Toronto. The rating, now based on testing to the Toronto test node, remains "Excellent".

22) Italy, EC - JRC: Rating: ↑ Good → **Excellent**

Teams: MISR   Domain: ceo.sai.jrc.it
Web Page: http://ensight.eos.nasa.gov/Missions/terra/JRC.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaRC DAAC	10.1	7.7	2.3	NISN / UUnet / Milan
GSFC-NISN	11.1	9.0	3.7	NISN / UUnet / Milan

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02 – '06	0.52	**Excellent**

Comments: Performance improved from both sources in May '05, due to an apparent UUNet upgrade. The noisiness from last period cleared up, increasing the daily worst above 3 x the requirement -- the rating improves to "Excellent".

23) Russia, CAO (Moscow):   Rating: Continued Excellent

Teams: SAGE III   Domain: mipt.ru
Web Pages: http://ensight.eos.nasa.gov/Missions/sage/CAO.shtml
                  http://ensight.eos.nasa.gov/Missions/sage/LARC_SAGE.shtml

Test Results:

Source → Dest	Medians of daily tests (kbps)			Route
	Best	**Median**	**Worst**	
CAO → LaRC	119	119	116	MIPT / TCnet / NISN SIP
CAO → LaRC	547	421	255	Commodity Internet
LaRC → CAO	148	147	127	NISN SIP / TCnet / MIPT
LaRC → CAO	1582	1447	626	Commodity Internet

Requirements:

Source → Dest	FY	kbps	Rating
CAO → LaRC	'02 – '06	26	**Excellent**
LaRC → CAO	'02 – '06	26	**Excellent**

Comments: Performance testing has been running since November '02, with dual routes. Performance on the NISN dedicated circuit to Moscow, then TCnet (NASA Russian ISP) tunnel to CAO ISP (MIPT) is extremely steady in both directions, with a rating (based on the modest requirement) of "Excellent".

The dual route configuration also allows testing via the commodity internet route. Performance via the internet route is much better, but is also more variable, and also would rate "Excellent".

24) UK, London: (UCL SCF)   Rating: Continued Excellent

Teams: MODIS, MISR   Domain: ucl.ac.uk
Web Page: http://ensight.eos.nasa.gov/Missions/terra/UCLSCF.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
LaRC DAAC	25.2	22.0	17.3	NISN / MAX / Abilene / NY / GEANT / Janet **??**
GSFC MAX	60.9	58.9	56.4	MAX / Abilene / NY / GEANT / JAnet

Requirements

Source Node	FY	mbps	Rating
LaRC DAAC	'02 – '06	1.03	**Excellent**

Comments: The route from LDAAC apparently changed to go via NISN to MAX and Abilene in April, based on the general LaRC routing change at that time, and the corresponding performance improvement (Traceroutes are blocked, however). If so, it was a good opportunity to benefit from the recent Abilene policy change, allowing our NISN data to transit Abilene to international destinations.

Thruput had been 3 mbps median, 1 mbps daily worst via NISN / Level3 peering in San Jose since approx January '04. Performance is less noisy on this route, and the daily worst improved this month to be well above 3 x the requirement. The rating remains "Excellent".

Performance from GSFC improved in early August due to test parameter retuning (median was 45 mbps last period), and much higher than from LaRC.

25) UK, Oxford: Rating: Continued **Excellent**

Teams: HIRDLS   Domain: ox.ac.uk

Web Page: http://ensight.eos.nasa.gov/Missions/aura/OXFORD.shtml

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC	4.08	4.08	4.07	MAX / Abilene / NY / GEANT /JAnet

Requirements: (IST Only)

Source Node	FY	kbps	Rating
GSFC	'03 – '06	512	**Excellent**

Comments: Very steady performance continues since May '03, rating "Excellent" compared to the IST requirement.

Test Results to other EOS HIRDLS UK Sites (Requirements TBD):

Web Page: http://ensight.eos.nasa.gov/Missions/aura/UK_RAL.shtml

Source → Dest	Medians of daily tests (mbps)			Route
	Best	**Median**	**Worst**	
GSFC → RAL	31.3	23.3	10.5	MAX / Abilene / NY / GEANT /JAnet

Comments: Thruput to RAL remains noisy, but quite good, and about the same as the last report. .